AMENDMENTS TO CLAIMS

Please cancel claims 5, 14, 20, and amend claims 1, 2, 3, 6, 7, 12, 13, 15, 16, 17, 21, 22 and 23 as follows:

1. (Currently amended) ~~A~~ An implantable surgical drain for draining fluid from and sensing a condition of a surgical wound within a patient's body comprising:

an elongated conduit having a drain lumen configured to be implanted within the surgical wound and to rest against tissue within the surgical wound and a plurality of drain holes spaced along substantially the length of the drain lumen that are configured to drain fluid from the surgical wound; and

at least one sensing element affixed to the elongated conduit and configured to sense a biochemical property of drained fluid within the drain lumen.

~~in and to drain fluid from a patient's body comprising a drain lumen and at least one sensing element;~~

~~wherein the at least one sensing element is configured to sense a biochemical property of a substance within the drain lumen.~~

2. (Currently amended) The surgical drain of claim 1, wherein the elongated conduit is configured to drain blood, puss, bile or intestinal contents.

3. (Currently amended) The surgical drain of claim 1, further comprising a plurality of sensing elements configured to sense a plurality of biochemical properties.

4. (Previously presented) The surgical drain of claim 1, wherein the biochemical property is selected from the group comprising: concentration, color, oxygenation, ~~perfusion,~~ pH, ~~NADH levels,~~ biochemical composition, or

drug concentration.

5. (Cancelled).

6. (Currently amended) The surgical drain of claim 1, further comprising a display in communication with the at least one sensing element, wherein the display is configured to depict data corresponding to the biochemical property sensed by the at least one sensing element.

7. (Currently amended) ~~A~~ An implantable surgical drain for draining fluid from and sensing a condition of a surgical wound within a patient's body comprising:

an elongated conduit having a drain lumen configured to be implanted within the surgical wound and to rest against tissue within the surgical wound and a plurality of drain holes spaced along substantially the length of the drain lumen that are configured ~~to be implanted in and~~ to drain fluid from the surgical wound ~~a patient's body~~, the elongated conduit including ~~a lumen having~~ a first position and a second position located within the drain lumen;

a first transmitting element placed proximate to the first position, configured to deliver energy into the drain lumen; and

a first sensing system placed proximate to the second position, configured to receive ~~energy~~ the delivered energy after it is modulated by a biochemical property of at least one substance within the lumen~~, proximate to the lumen second position~~.

8. (Original) The surgical drain of claim 7, wherein the first transmitting element and first sensing system are embedded within the conduit behind material that is optically transparent.

9. (Original) The surgical drain of claim 7, wherein the first position and second position are located on substantially opposite sides of the drain lumen.

10. (Original) The surgical drain of claim 7, wherein the lumen includes a third position and a fourth position, further comprising: a second transmitting element configured to deliver energy to the lumen proximate to the third position; and a second sensing system configured to receive energy proximate to the lumen fourth position.

11. (Original) The surgical drain of claim 10, further comprising a processing system in communication with the first and second sensing systems configured to compare a difference between the energy detected by the first and second sensing systems.

12. (Currently amended) The surgical drain of claim 10, further comprising a third sensing system configured to sense a different biochemical property than the first sensing system.

13. (Currently amended) The surgical drain of claim 12, wherein the biochemical property is selected from ~~a~~ the group comprising: concentration, color, oxygenation~~, perfusion~~, pH, ~~NADH levels,~~ biochemical composition, or drug concentration~~, turgidity or pressure~~.

14. (Cancelled).

15. (Currently amended) The surgical drain of claim 12, further comprising a display in communication with the second sensing system, wherein the display is configured to depict data corresponding to the biochemical property sensed by the second sensing system.

16. (Currently amended) A method of draining fluid from and ~~utilizing a surgical drain to~~ monitoring the condition of a surgical wound within a patient's body ~~a substances in a drain lumen~~ comprising:

implanting a surgical drain having a ~~surgical~~ drain lumen and a plurality of drain holes spaced along substantially the length of the drain lumen within the surgical wound such that substantially the length of the drain lumen rests against tissue within the surgical wound and oriented so as to drain fluid from the surgical wound ~~within a patient's body in proximity to a tissue~~ to be monitored~~,~~; ~~wherein the surgical drain includes~~

sensing by a first sensing system affixed to the surgical drain ~~configured to sense~~ a biochemical property of a substance within the drain lumen over time;

receiving information from the first sensing system regarding ~~a substance~~ the sensed biochemical property within the drain lumen; and

monitoring the information received from the sensing system to evaluate the condition of the tissue over time.

17. (Currently amended) The method of claim 16, further comprising transmitting energy within the drain lumen and receiving energy with the first sensing system.

18. (Original) The method of claim 16, further including processing the information received from the first sensing system.

19. (Original) The method of claim 18, further including displaying information received from the first sensing system.

20. (Cancelled).

21. (Currently amended) A method of ~~utilizing a surgical drain to~~ monitoring substances ~~in~~ within a surgical wound in a patient's body ~~a drain lumen~~ comprising:

implanting a surgical drain having a drain lumen and a plurality of drain holes spaced along substantially the length of the drain lumen so as to rest against a substantial length of tissue within the surgical wound, wherein the plurality of drain holes are spaced along substantially the length of the lumen and are configured to drain fluid from the surgical wound; ~~within a patient's body in proximity to tissue to be monitored, wherein the surgical drain includes~~

sensing by a first and a second sensing system affixed to the drain ~~configured to sense a physiological~~ a biochemical property of ~~a~~ at least one substance within the drain lumen over time;

receiving information from the first and second sensing systems regarding ~~the at least one substance~~ the sensed biochemical property ~~in~~ within the drain lumen; and

monitoring the information received from the first and second sensing systems to evaluate the condition of the tissue over time.

22. (Currently amended) The method of claim 21, further comprising processing information from the first and second sensing systems to compare a difference in information received from the first and second sensing systems.

23. (Currently amended) The method of claim 21, further comprising processing information from the first and second sensing systems to compare a difference in information received from the first and second sensing systems proximate to different positions along the drain lumen.